

Title (en)  
DRY SUMP LIQUID FILTER.

Title (de)  
FLÜSSIGKEITSFILTER MIT TROCKEN BLEIBENDEM GEHÄUSE.

Title (fr)  
FILTRE DE LIQUIDES POUR CARTERS A SEC.

Publication  
**EP 0328551 B1 19940323 (EN)**

Application  
**EP 87907570 A 19871029**

Priority  
US 92661286 A 19861104

Abstract (en)  
[origin: WO8803432A1] A liquid filter apparatus, for connection to inlet and outlet piping, (4, 6) includes a housing (10) which is integral with the piping and a removable integral filter unit (40) in the housing (10). The integral filter unit (40) includes bottom and top end caps (42, 56) with a core tube (50) and a concentric outer tube (54) extending between the end caps. A filter element (64) between the core tube (50) and the outer tube (54) stands on ribs (43) extending upward from the bottom end cap (42) and is spaced from the top end cap (56) by similar ribs (57) extending downward from the top end cap (56), these ribs (43, 57) creating radial flow channels above and below the filter element. The filter element (46) is wound spiral of filter material (62) and separator (63) forming a plurality of axial flow channels (66, 68). Some of these axial flow channels (66, 68) are open at the top to receive liquid from the top radial flow channel and closed at the bottom, and some of the axial channels (66, 68) are closed at the top and open at the bottom to discharge liquid into the bottom radial flow channel. Filter action is by way of radial flow, through the filter material, (62) from the open-top channels to the open-bottom channels. The housing cover (22) is removable to remove and replace the filter (40). Means (26) are provided to vent air from the system and to drain liquid from the system for removal and replacement of the filter (40) without having to clean the housing (10).

IPC 1-7  
**B01D 25/24**; **B01D 35/30**; **B01D 27/08**

IPC 8 full level  
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CPC (source: EP US)  
**B01D 25/24** (2013.01 - EP US); **B01D 2201/307** (2013.01 - EP US); **F01M 2001/126** (2013.01 - EP US)

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**WO 8803432 A1 19880519**; AU 601006 B2 19900830; AU 8272587 A 19880601; CA 1319622 C 19930629; DE 3789449 D1 19940428; DE 3789449 T2 19941103; EP 0328551 A1 19890823; EP 0328551 B1 19940323; JP H02500001 U 19900301; JP H0520404 Y2 19930527; US 4824564 A 19890425

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**US 8702843 W 19871029**; AU 8272587 A 19871029; CA 550638 A 19871030; DE 3789449 T 19871029; EP 87907570 A 19871029; JP 60002189 U 19871029; US 23896388 A 19880825